

Inland Waterways: The Funding Challenge

By Robert Pietrowsky, Director, Institute for Water Resources, U.S. Army Corps of Engineers

Thank you very much, Harry, I appreciate it. What Harry didn't mention is I'm pinch hitting for Rob Vining. Rob's name was originally up on the slides, and he unavoidably is fire fighting some of these bloody wars in Washington this week and couldn't be here, but he does offer his apologies.

Excellent introduction, Harry, thank you. You set the context for the presentation. Rob was going to complement Harry's discussion of the inland waterway system, focusing on a discussion of the fuel tax system.

It's a subset of the 25,000 miles of navigable waterways set by law. Harry described 11,000 miles anchored by the Mississippi and tributaries, but including those waterway segments, 27 waterway segments that by law are subject to the fuel tax and generate revenue that ultimately is cost shared 50/50 from the Inland Waterway Trust Fund to construct new waterway projects.

We've heard a lot about the value of the waterways. You've heard these statistics. You know that petroleum products, coal, farm products are the key ones traveling on the waterways. What's unsaid, though, beyond the fact that the 600 million tons generate over 300 billion ton miles is what would happen if we didn't have inland waterways.

Well, this volume of commerce would translate into over 6 million rail cars annually or 25 million truck movements. I've driven enough on route 80 across country or route 81 north/south. I don't want to see one more truck on the road, let alone 25 million more trucks, so certainly that's unacceptable.

The Institute for Water Resources has done some work with Tennessee Valley Authority (TVA) trying to get a better handle on the total movement of commodities. Not just the water side movement, but the land side, leading to the water movement.

Remarkably, more than half the country, not just the states along the river, but more than half of the country, 31 states contribute commodities that flow to the waterways. These are important industries that generate thousands of jobs in towns across the country. Again, benefits that are unstated in terms of the traditional analysis.

You heard Mr. Izzo the other night use the transportation cost savings quote also, and that's another misunderstood fact about the waterways.

Rob wanted to talk a little bit about the aging infrastructure. And this again is an underappreciated problem that the Corps is dealing with. It's not a pretty picture. Mr. Izzo talked about Lock and Dam 11 on the Upper Mississippi as one example. But many

of our structures go back to the '30s. And this is a slide showing the distribution of the age of the lock chambers on the system.

Forty-five percent of the lock chambers have exceeded their design life of 50 years already. By 2010 that will grow to 55 percent. We're already at the point where this is influencing performance. And you start to see some of that performance impact when you look at a concept like lock "unavailability."

This is the outage time of the locks. What we've seen over the last ten years is that the amount of time that lock chambers have been unavailable has increased dramatically. These include both planned outages, when major rehab or repairs are planned, and unplanned. But both have grown, and it is certainly synergistic with the aging of the infrastructure and the O & M backlog, which you've heard about.

Of course on top of that, waterway traffic is growing despite what you may read in the Washington Post. It's not growing as robust as the international commerce flowing into the country, but it appears in the forecast we've developed and the trends we've seen. The growth is certainly steady, one to one and a half percent annually.

The compounding of that growth rate leads to an increase of about one-third by the year 2020. So, we're talking about potentially, in terms of an unconstrained forecast, another 200 million tons that could be flowing to the waterways.

Now, growing traffic and an aging infrastructure just eventually influence capacity. So, we have problems with congestion. This particular slide contrasts the dilemma, the old Lock and Dam 26 shown in the upper right with the smaller chambers that had to have most tows cut compared to a new modern 1,200 foot chamber that can accommodate the industry standard, 15 barge tow.

This slide shows the average hours of delay per tow for a ten-year period. It's quite remarkable. We have 20 locks on the system that have delays on average per tow of more than one hour with 17 of those more than two hours. And you see several up in the over four-hour range, including the Inner Harbor lock that has a 12-hour delay average; quite remarkable.

Of course, this gets worse during the peak season. This slide which depicts the average lock delay in the peak month highlights the bottlenecks. And the bottlenecks are in the work horse locks, some of the busiest locks in the system.

And again when you combine this with the aging problem, it's not a pretty picture, and it cries out for investment.

This is a little summary of the financing mechanism that includes both inland waterways on the bottom and international harbors on top. Harry talked about this, and it is a complex system of a combination of both general revenue for certain functions and a

combination of user fees. On the harbors, it's an ad valorem tax on the value of the cargo flowing in and around the country. And on inland waterways, it's the fuel tax.

This is a snapshot of a typical budget year for the Corps. Typically the navigation function, both the deep draft, the coastal work, and the inland waterways, comprises about 40 percent of the spending of the Corps budget.

The items I wanted to talk a little bit about today in financing are the cost of the inland waterways construction. That's inland waterway construction which John talked about. For '01 that was \$175 million, including 50 percent which came from the trust fund.

Here's the inland waterway operation and maintenance, which is shown as \$475 million in the 2001 budget. This year the O & M for waterways is down to \$442 million. And the budget proposal for next year is at \$415 million. So we have a dwindling amount of O & M money being programmed for an aging infrastructure.

This gives a little historical perspective on the O & M spending. The red line shows actual dollars in it. Looks like it's going up. But when you work in constant dollars, and these are constant 1996 dollars, you'll see that really for all practical purposes, the spending on O & M on the system has hovered between \$400 and \$500 million for the last 25 years.

Actually, if you extend this to the proposal for next year, the constant dollar amount of \$415 million would actually be lower. It would be under \$400 million, if you make the adjustment to 1996 dollars.

This is an interesting slide. It shows what John was saying is correct about how this Administration is approaching the waterways in a very businesslike, somewhat vigorous approach. Yet, there are a lot of questions about the criteria and the validity of criteria that they're using.

What this slide shows is a percent change on the O & M proposed for various waterways comparing this year's budget analysis to the '03 budget request. The total bar on the top reflects a six percent reduction from the \$442 this year down to \$415.

The waterways listed at the top are the 'losers.' Those bars that go up show the percent reductions that are proposed for those waterways, and they're mainly the tributary waterways. There are some exceptions, but they're generally the tributaries.

It's the smaller ones that appear to have been targeted for reductions. The waterways on the bottom show either steady O & M funding between the two years or a slight increase.

What's happening is that the Administration decided to use a criteria of ton-miles to assess whether a waterway was economically viable. And they used the threshold of 1 billion ton-miles to make that judgment.

Now, there's a lot of sense in it, but that kind of criteria penalizes the smaller tributaries because they don't have the length in their internal movements to generate a lot of ton-miles. And the ton-miles that they do generate throughout the whole system, which can be quite significant, are then not counted in this kind of accounting.

The Institute has put forward David Grier's work (who's here this week); has put forth ideas like system ton-miles, or to actually do a rigorous analysis on transportation cost savings which ultimately could be used to evaluate the economic viability of the waterways.

But certainly at least system ton-miles, if properly calculated, would make a big difference in crediting the tributaries with their economic role in feeding the main stem waterways with the traffic.

This slide is not pretty either. It's the historical prospective on inland waterway construction. This includes the money that's cost shared 50/50 from general revenue and money from the Inland Waterway Trust Fund. The funding peaked in actual dollars just under \$300 million dollars back in 1991 and has never really recovered since then. Recently we're getting slightly more robust budgets.

I'm going to skip this slide. Harry already reviewed the history of the trust fund in terms of when it was operationalized, and the amount of the fuel tax.

But these are the latest statistics on the trust fund. And they certainly cry out for the kind of report that Jeff talked about yesterday from GAO looking at the background behind why the money being generated both in this trust fund and also in the Harbor Maintenance Trust Fund, which actually has much more of a surplus, is not being spent. That surplus in the Harbor Maintenance Trust Fund is now about \$2 billion dollars. At the end of last fiscal year the Inland Waterway Trust Fund surplus was over \$400 million. The Trust Fund took in record revenues in '01, about \$113 million.

So, certainly you could support on revenues coming in, including interest, about \$135 million contributions, which would cry out for something that was at least budget neutral around \$270, \$300 million dollars per year. And that's without drawing down the surplus.

Despite the budget constraints, there's a lot of activity. There are nine lock and dam construction projects ongoing now, five major rehabs. The total cost of these projects is about \$4.4 billion.

Now, of course, if you do the math and if the Corps is getting about \$250 million a year, you see how long it's going to take to finish these projects alone, let alone other projects that could be coming on-line.

One of the examples I know Mr. Izzo gave did receive robust funding. It's the Olmstead Lock and Dam, which relatively speaking did fairly well in the budget. But consider that when it's finished later in this decade, it will have been about 20 years from start to finish, before that project came to fruition.

This is a slide that has some scenarios in terms of what the future could look like in terms of expenditures from the trust fund. The red is the baseline. That's consistent with the president's budget request, and the Corps' ten-year program they work out with Sec Army and OMB. It actually looks more robust than we've seen, although the track record has been that it's been endloaded over the ten years. And as we move each year forward, it seems like the particular budget years tend to be suppressed down closer to the \$200 million dollar level.

The yellow line shows the capabilities out past 2002. That reflects the critical task schedules, the engineering schedules at the various districts. It shows that a program approaching \$400 million, \$450 million certainly would expedite the projects and would allow them to be completed on schedule.

Of course, both of those scenarios would have a different impact on the trust fund balances. The baseline program has modest growth would begin to draw down the balance in the trust fund, but no way would make use of that \$400 million that is sitting there today.

Under the capability program, which overall probably isn't realistic, every project would proceed on its capability schedule. But, nevertheless, if it did happen, it wouldn't draw down the trust fund until the year 2007. It appears it certainly could support a program of about \$300, \$320 million. It would have the purpose of expediting the projects, allow new projects to be started, and would also draw down the balance.

And there are more projects coming. The system is aging, and there are other studies going on including, of course, the Upper Miss Study, Upper Miss and Illinois, work on the GIWW Texas, the Arkansas, Black Warrior, Tennessee. There's a lot of planning work going on. True the studies have been constrained in the budget proposal for next year, but there are many recommendations that may be flowing still for additional work.

So, here is the challenge, just to summarize. We have a system that's vital to the economy of the U.S., vital to jobs and to industries around the country. We have an aging infrastructure that cries out for modernization, with O & M being deferred. We have a backlog of O & M. We have locks that are not just aging, but their performance is being affected both in terms of outages increasing and congestion increasing.

Traffic growth is modest, but it is growing one and a half percent a year. Compounded that's a huge increase over the next 20 years. Meanwhile, we have surplus in both the Harbor Maintenance Trust and in the Inland Waterway Trust Fund.

We would hope that we have the resources in future budgets to address this, but certainly it's a dilemma. And even if the trust fund was going down and the system was funded robustly for the work in the queue, it would still be a challenge to fund all that work. So, there are other issues on the table that need to be attended to into the future.

Anyway that's a quick run through the slides. I hope I kept on schedule, Harry. And I'll turn it over to you again. Thank you.

